

MDRECEIVER

# KMD-71/870R

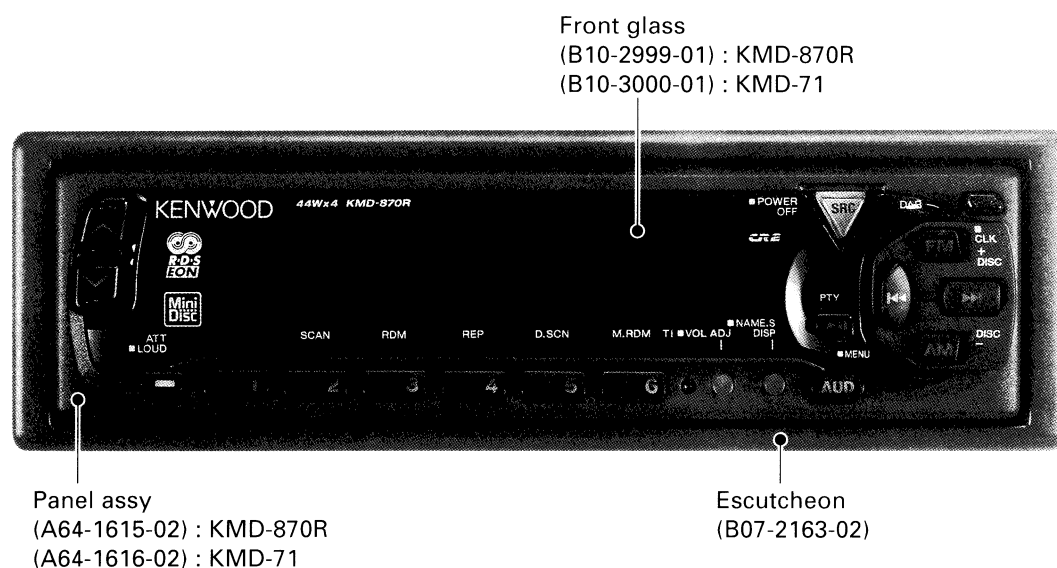
## SERVICE MANUAL

# KENWOOD

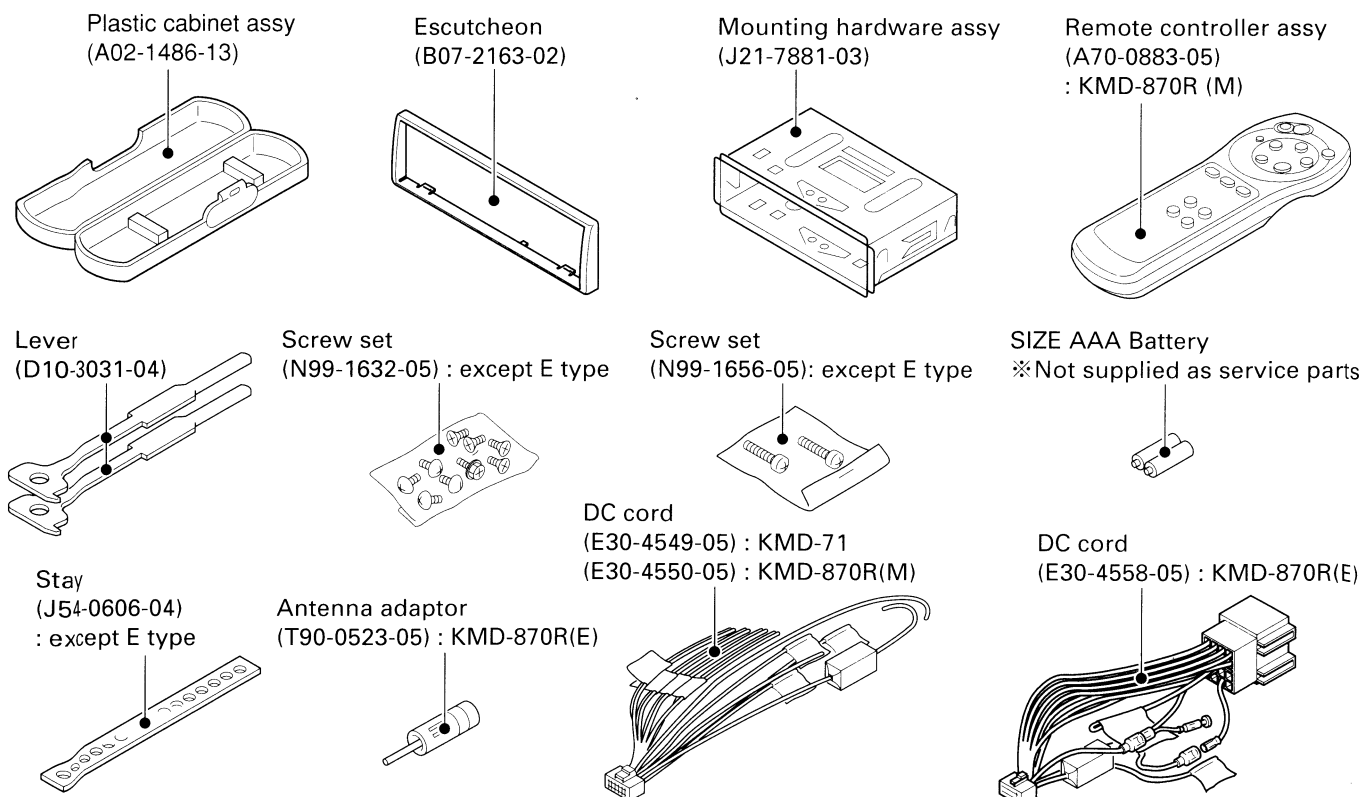
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B51-7458-00 (N) 3272

- This service manual does not include information on the MD mechanism assembly (exploded view, parts list, schematic diagram or mechanism description). For such information, refer to the MD mechanism assembly manual (X92-3390-00, 0-01, X92-3560-00, X92-3580-00 : B51-7461-00).



**Photo is KMD-870R**

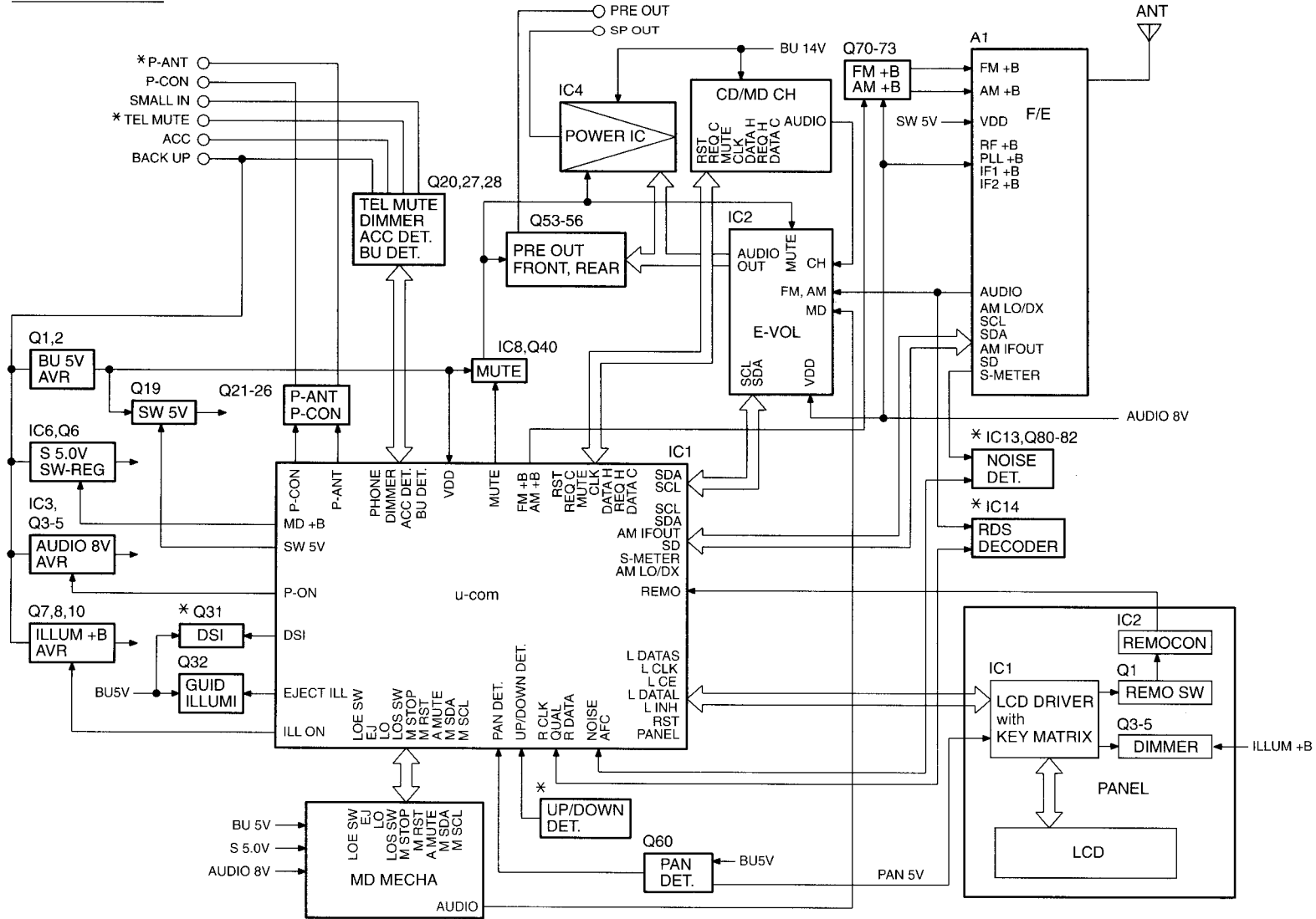


# KMD-71/870R

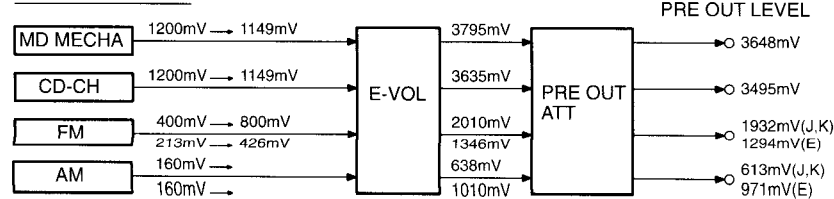
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# BLOCK DIAGRAM



## LEVEL DIAGRAM



(X25-825x-xx)

MODEL NAME	UNIT No.	RDS DECODER	NOISE DET.	DSI	P-ANT	TEL MUTE	UP/DOWN DET.
RX-760MD (J)	0-00	NO	NO	NO	YES	NO	NO
KMD-71 (K)	0-11	YES	NO	YES	YES	NO	YES
KMD-870R (M,E)	2-71	YES	YES	YES	NO	YES	YES

## BLOCK DIAGRAM

KMD-71/870R

# KMD-71/870R

## CIRCUIT DESCRIPTION

### COMPONENT DESCRIPTION

#### SWITCH UNIT(X13-9430-12)

Ref.No.	Component Name	Application/Function	Operation/Condition/Compatibility
IC1	LC75817W	LCD driver with key-matrix	
IC2	RS-171	Remote control light sensor	
Q1	DTA124EK	Remote sensor power SW	On at base "L"
Q2	DTA124EK	key-matrix permission SW	On at base "L"
Q3	2SC2412K	Dimmer SW	On at base "H"
Q4	2SD2114K	Illumination SW (Green)	On at base "H"
Q5	2SD2114K	Illumination SW (Amber)	On at base "H"
Q6	2SC2412K	LCD AVR	

#### ELECTRIC UNIT(X25-825X-XX)

Ref.No.	Component Name	Application/Function	Operation/Condition/Compatibility
IC1	UPD784215GF536	System MI-COM.	
IC2	TDA7461ND	E-VOL&NC MAX	
IC3	M5237ML	AVR IC	
IC4	TDA7386	Power IC	
IC6	LM2575HVS-5.0	MD SERVO AVR	DC/DC Converter
IC7	PST9130NR	Reset IC	"L":detection voltage below 3.7V
IC8	TC74HC02AF	Mute logic	
IC13	NJM4565M-TE2	Noise detection amp	
IC14	TDA7479D	RDS decoder	
Q1	2SC2412K	BU 5V AVR	inverted darlington connection
Q2	2SB1565F (E,F)		On during BU applied
Q3	DTA124EK	Audio 8V AVR	inverted darlington connection
Q4	DTC144EK		AVR on at Q4 base "H"
Q5	2SB1565F (E,F)		
Q6	DTC144EK	MD SERVO AVR ON/OFF	On at base "H"
Q7	DTC144EK	Illmination AVR	ON at Q7 base "H"
Q8	DTA124EK		
Q10	2CD1760		
Q19	2SA1036K	SW 5V	On at base "L"
Q20	DTC144EK	DIMMER SW	On at base "H" while ILLUMINATION applied
Q21	2SB1277 (Q,R)	P-ANT SW	ON at Q22 base "H" during FM/AM reception
Q22	DTC114YK		
Q23	2SB1277 (Q,R)	P-CON SW	On at Q7 base"H"
Q26	DTC114YK		
Q24	2SA1037K	Protection for P-CON SW	Activates when the P-CON output voltage drops
Q25	DTA124EK		
Q27	2SC2412K	BU detection	"H" when momentary power down detected
Q28	2SC2412K	ACC detection	"H" during ACC off
Q31	2SC2412K	SDI driver	On at base "H"
Q32	2SC2412K	Eject illmination driver	On at base "H"
Q40	DTA124EK	Audio mute driver	Mute on at base "L"
Q41	DTC144EK	E-VOL mute SW	Mute on at base "H"
Q53-56	DTC143TK	Audio mute SW	Mute on at base "H"
Q57	DTC144EK	SVR SW	On at base "L" when power on, on at base "H" when momentary power down detected
Q60	2SA1037K	Panel open/close detection SW	On at base "L" during panel closed
Q61	DTA124EK	CH2 control SW	CH2 on at base "L"
Q70	DTC124EK	FM +B SW	On during FM reception
Q71	2SB1277 (Q,R)		
Q72	DTC124EK	AM +B SW	On during AM reception
Q73	2SB1277 (Q,R)		
Q75	2SC2412K	F/E audio buffer	
Q80	2SC2412K	Noise buffer	
Q81	DTC114TK	Noise detection	Q81 base "L" during search,"H" during reception
Q82	DTA124EK	time constant SW	

# KMD-71/870R

## CIRCUIT DESCRIPTION

### System U-com

#### Terminal Description

Pin No.	Pin Name	I/O	Function	Description	Processing Operation
1	P60/A16	I	TYPE0	Destination pin 0	
2	P61/A17	I	TYPE1	Destination pin 1	
3	P62/A18	O	NC		
4	P63/A19	O	CH RST	Changer reset output pin	Active: "H"
5	P64/RD	O	NC		
6	P65/WR	O	NC		
7	P66/WAIT	O	NC		
8	P67/ASTB	O	NC		
9	Vdd	-	Vdd	Positive power supply pin	
10	P100/TI5/TO5	O	NC		
11	P101/TI6/TO6	O	SVR	Power IC reset pin	Power on: "L", when momentary power down detected: "H"
12	P102/TI7/TO7	O	NC		
13	P103/TI8/TO8	O	P MUTE	Power IC mute pin	Active: "H"
14	P30/TO0	O	ANT CON	Antenna control pin	Active: "H"
15	P31/TO1	O	IC2 SCK	IC2,IC5 clock line	
16	P32/TO2	I	DIMMER	Small detection pin	Active: "L"
17	P33/TI1	O	P CON	Power control pin	Active: "H"
18	P34/TI2	I	ACC DET	ACC detection pin	ACC off: "H", ACC on: "L"
19	P35/TI00	I	REMO	Remote control input pin	
20	P36/TI01	O	P ON	Microprocessor peripheral power supply control pin	Active: "H"
21	P37	I	BU DET	BU detection pin	Momentary power down: "H"
22	TEST	-	TEST	Test pin	
23	P90	I/O	IC2 SDA	IC2,IC5 data line	
24	P91	O	MUTE	Mute pin	Active: "H"
25	P92	O	SW5	5V power supply control pin	Active: "L"
26	P93	I/O	M CLK	MD clock line	
27	P94	I/O	M DATA	MD data line	
28	P95	O	CHCON2	Changer 2 control pin	Active: "L"
29	P120/RTP0	O	CHCON1	Changer 1 control pin	Active: "H"
30	P121/RTP1	I	CH MUTE	Changer mute input pin	Mute request: "H"
31	P122/RTP2	O	REQH	Changer handshake request pin	Active: "L"
32	P123/RTP3	O	ILL ON	Illumination output pin	Active: "H"
33	P124/RTP4	O	DSI	DSI output pin	Active: "H"
34	P125/RTP5	O	NC		
35	P126/RTP6	O	NC		
36	P127/RTP7	O	MD+B	MD power supply control pin	Active: "H"
37	Vdd	-	Vdd	Positive power supply pin	
38	X2	-	X2	Main clock connection pin	
39	X1	-	X1	Main clock connection pin	
40	Vss	-	Vss	GND pin	
41	XT2	-	XT2	Sub clock connection pin	
42	XT1	-	XT1	Sub clock connection pin	
43	RESET	I	RESET	Reset input pin	Active: "L"
44	P00/INTP0	O	NC	Changer reset output pin	
45	P01/INTP1	I	R CLK	RDS clock input pin	
46	P02/INTP2/NMI	I	REOC	Changer handshake request pin	Active: "L"
47	P03/INTP3	I	EJECT	Eject SW input pin	Active: "L"
48	P04/INTP4	O	NC		
49	P05/INTP5	I	LOS SW	MD insert detection pin	Active: "L"
50	P06/INTP6	O	NC		

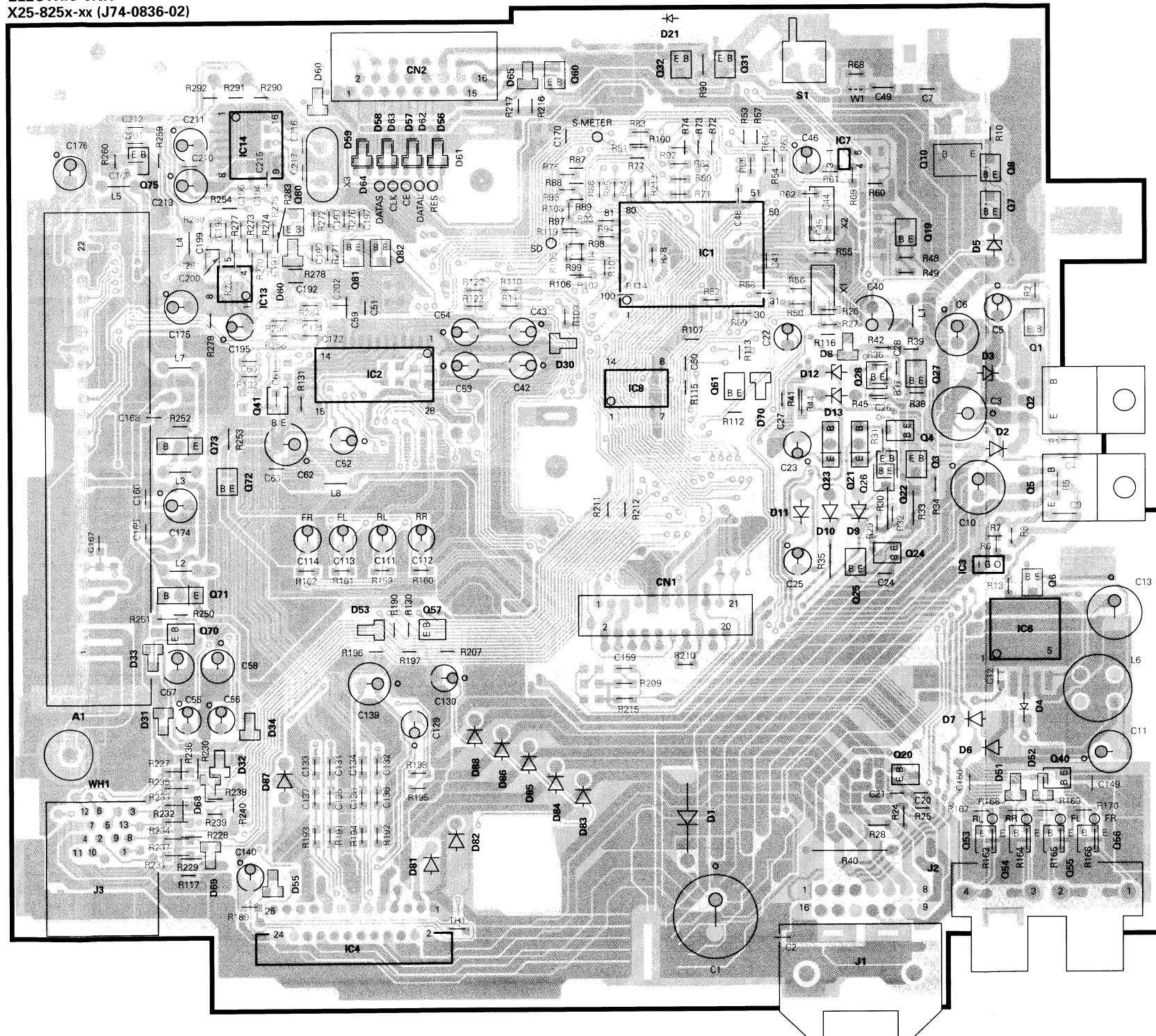
# KMD-71/870R

## CIRCUIT DESCRIPTION

Pin No.	Pin Name	I/O	Function	Description	Processing Operation
51	AVdd	-	AVdd	A/D analog power supply pin	
52	AVref0	-	AVref0	A/D reference voltage input pin	
53	P10/ANI0	I	PHONE	PHONE detection pin	1V or less: PHONE, 2.5V or greater: NAVI MUTE
54	P11/ANI1	I	NC		
55	P12/ANI2	I	NOISE	FM noise detection pin	
56	P13/ANI3	I	S METER	FM S meter detection pin	
57	P14/ANI4	I	NC		
58	P15/ANI5	I	NC		
59	P16/ANI6	I	OPEN/CLOSE DET	Tilt-able panel detaching detection pin	Panel detached: "H"
60	P17/ANI7	I	M MUTE	MD mute request pin	Active: "L"
61	Avss	-	Avss	A/D GND pin	
62	P130/ANO0	O	NC		
63	P131/ANO1	O	M RST	MD reset output pin	Active: "L"
64	AVref1	-	AVref1	D/A reference voltage input pin	
65	P70/RxD2/SI2	I	DATA C	Data line from changers	
66	P71/TxD2/SO2	O	DATA H	Data line to changers	
67	P72/ASCK2/SCK2	I/O	CH CLK	Clock line with changers	
68	P20/RxD1/SI1	I	L DATA L	Data line from LCD driver	
69	P21/TxD1/SO1	O	L DATA S	Data line to LCD driver	
70	P22/ASCK1/SCK1	O	L CLK	Clock line to LCD driver	
71	P23/PCL	O	M STOP	MD stop request output pin	Stop requested: "L"
72	P24/BUZ	O	BEEP	BEEP output pin	Active: "H"
73	P25/SI0/SDA0	I/O	IC3 SDA	Data line with PLL	
74	P26/SO0	O	NC		
75	P27/SCK0/SCL0	O	IC3 SCK	Clock output to PLL	
76	P80/A0	I	LOE SW	MD pack in detection pin	Active: "L"
77	P81/A1	O	EJECT	MD eject	Active: "H"
78	P82/A2	O	LOAD	MD loading	Active: "H"
79	P83/A3	O	L INH	Reset output to LCD driver	Active: "L"
80	P84/A4	O	L CE	CE output to LCD driver	
81	P85/A5	I	PANEL	Panel tilting detection pin	Panel tilted: "H"
82	P86/A6	O	EJECT ILL	Eject illumination output pin	Active: "H"
83	P87/A7	O	NC		
84	P40/AD0	I	QUAL	RDS receiving condition input pin	
85	P41/AD1	I	R DATA	RDS data input pin	
86	P42/AD2	O	NC		
87	P43/AD3	O	NC		
88	P44/AD4	I	SD	SD input pin (FM/AM)	Station detected: "H", not detected: "L"
89	P45/AD5	I	IF COUNT	AM IF count input pin	Station detected: "H"
90	P46/AD6	O	NC		
91	P47/AD7	O	NC		
92	P50/A8	O	AFC	Noise detection time constant switching pin	During reception: "H", during search: "L"
93	P51/A9	O	NC		
94	P52/A10	O	NC		
95	P53/A11	O	LO/DX	LOCAL output pin	LOCAL: "H", normal: "L"
96	P54/A12	O	AM+B	AM power supply control pin	During AM reception: "H"
97	P55/A13	O	FM+B	FM power supply control pin	During FM reception: "H"
98	P56/A14	I	ST TYPE0	IC2 Ver.2 destination type pin 0	Initial value: "L"
99	P57/A15	I	ST TYPE1	IC2 Ver.2 destination type pin 1	Initial value: "L"
100	Vss	-	Vss	GND pin	

# PC BOARD (COMPONENT SIDE VIEW)

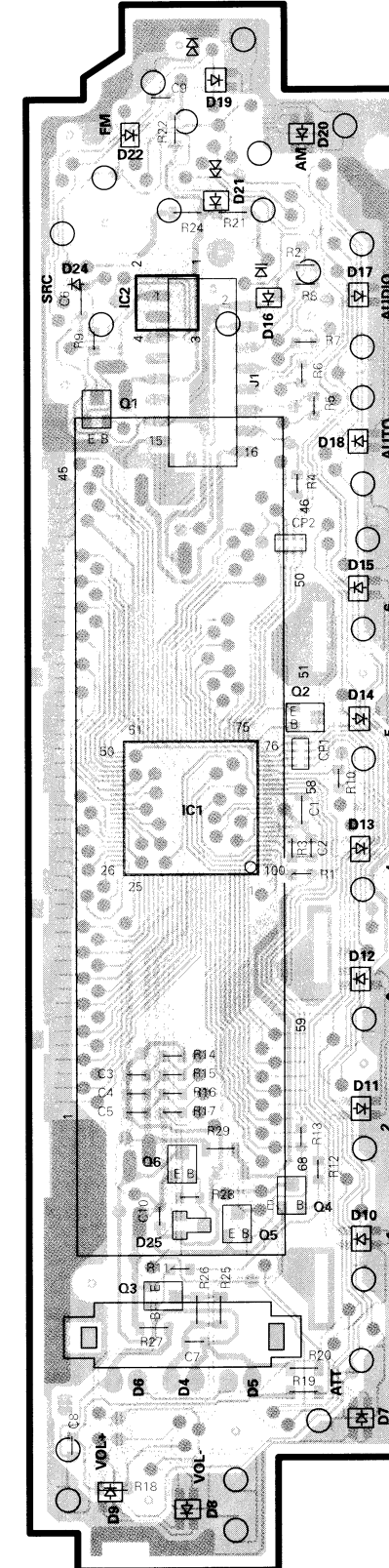
ELECTRIC UNIT  
X25-825x-xx (J74-0836-02)



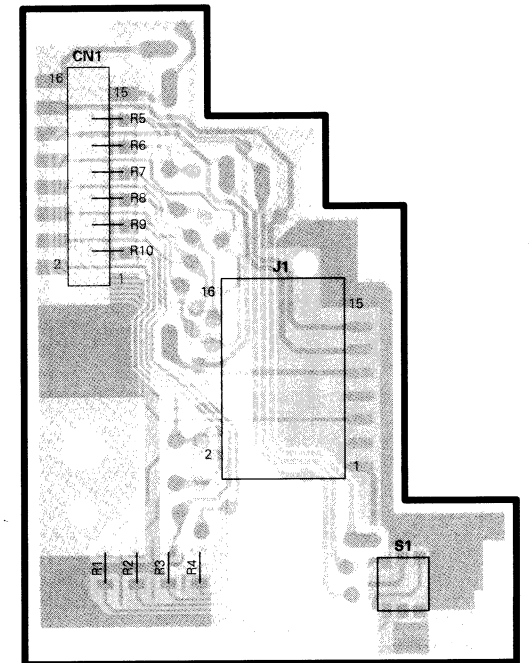
X25-825X-XX

A25-825A-XA																			
IC	1	2	3	4	6	7	8	13	14										
address	3D	3C	4E	6B	4F	2E	3D	3B	2B										
Q	1	2	3	4	5	6	7	8	10	19	20	21	22	23	24	25	26	27	28
address	3F	3F	4E	3E	4F	4F	2F	2F	2E	2E	5E	4E	4E	4E	4E	4E	3E	3E	
	31	32	40	41	53	54	55	56	57	60	61	70	71	72	73	75	80	81	82
	2D	2D	5F	3B	5E	5F	5F	5F	4C	2D	3D	4B	4B	4B	3B	2A	2B	3B	3C

X13-943x-xx (J74-0832-02)



X89-2282-72  
(J74-0720-22)



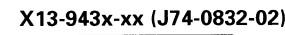
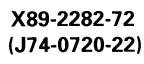
X13-9430-12

IC	Q	address
1		4G
2		2G
	1	3G
	2	4H
	3	6G
	4	5H
	5	6G
	6	5G

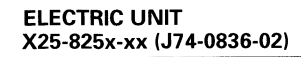
Refer to the schematic diagram for the values of resistors and capacitors.



## 7



**X13-9430-12**



**X25-825X-XX**

1

2

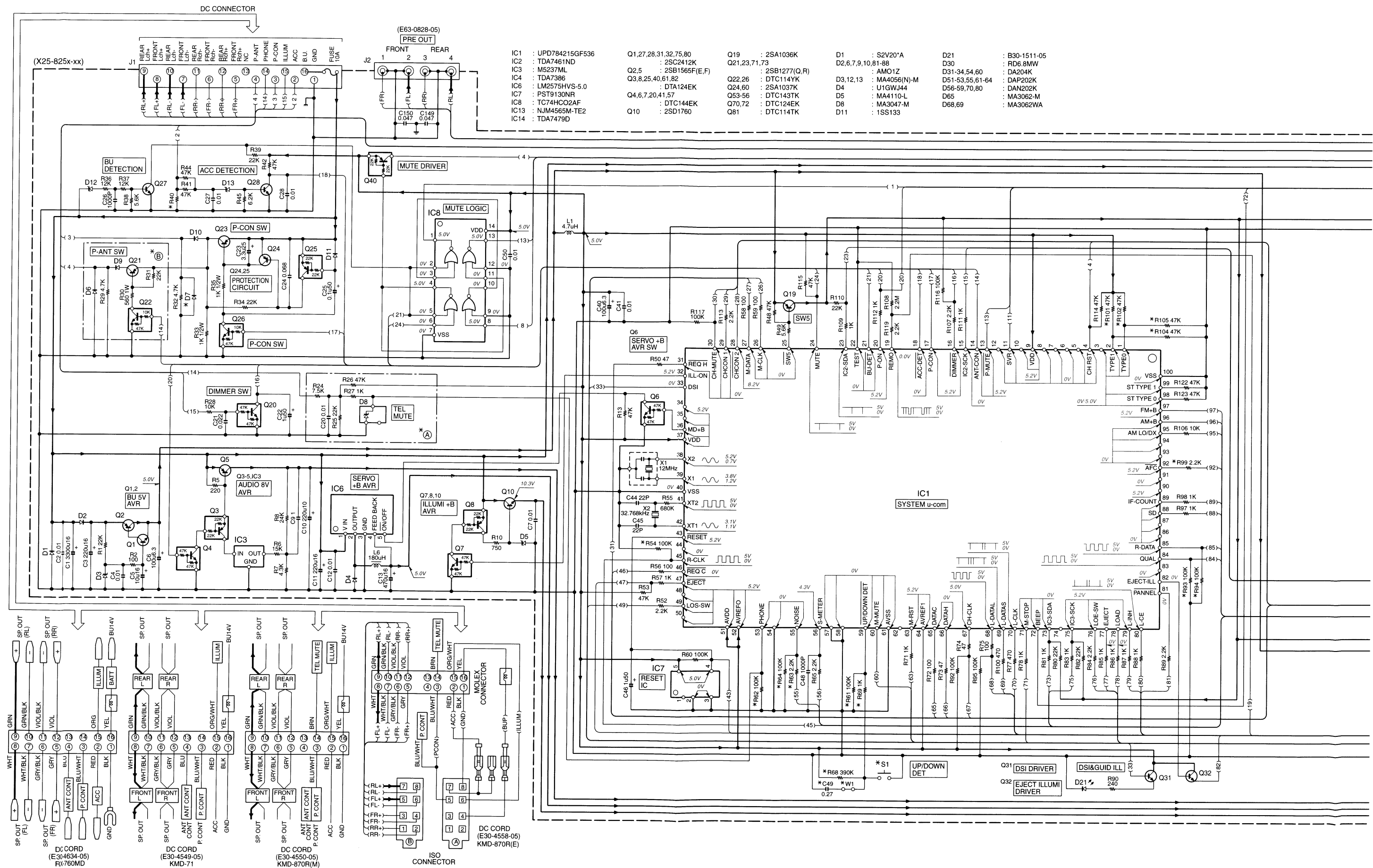
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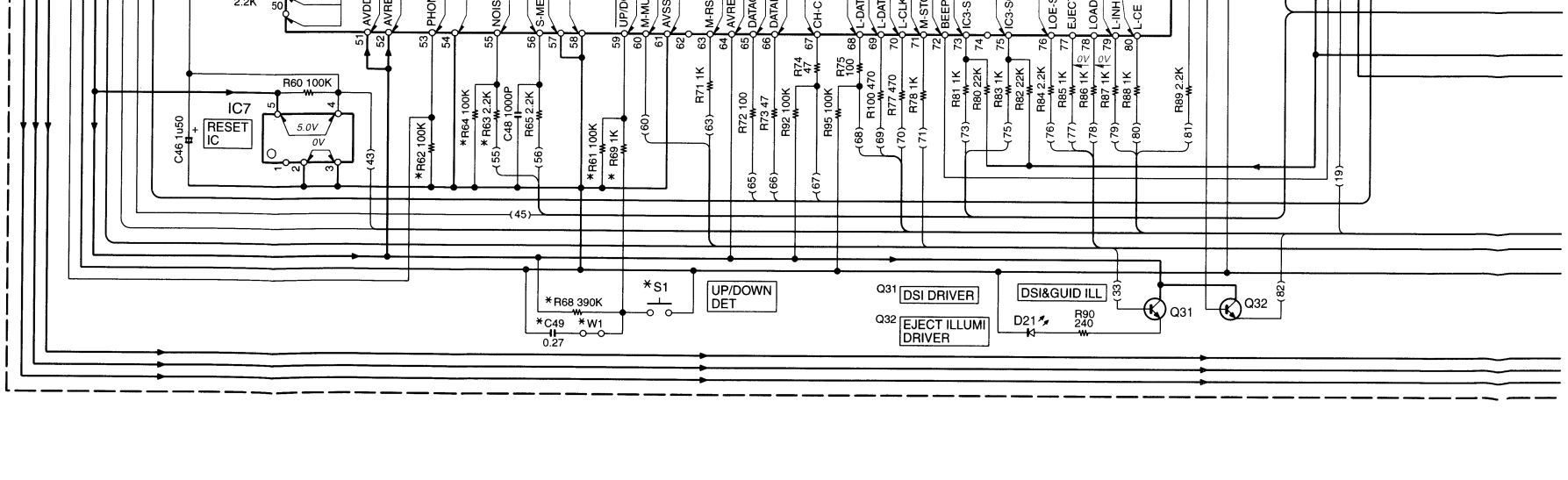
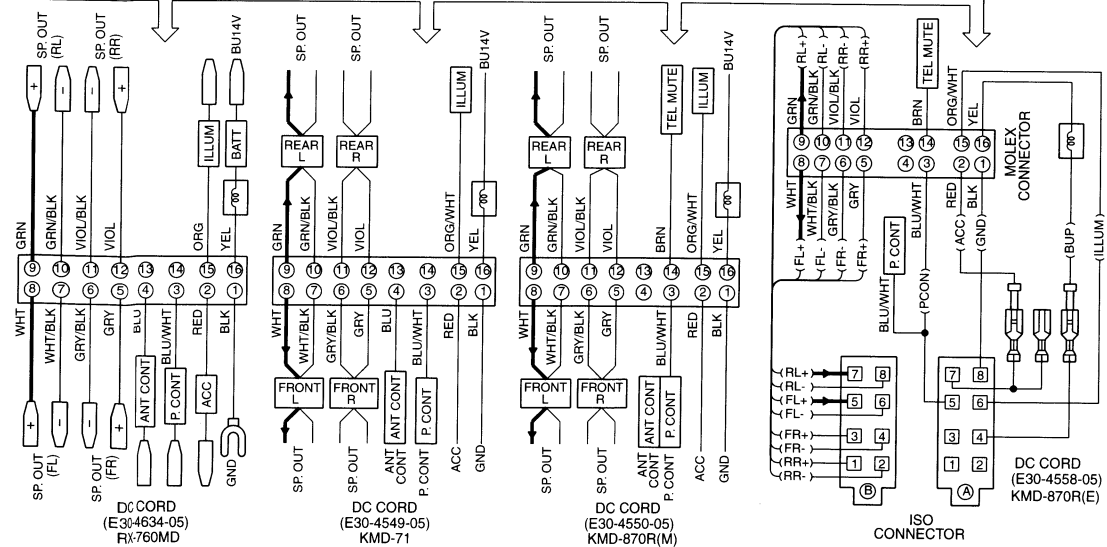
- IC1 : UPD784215GF536  
IC2 : TDA7461ND  
IC3 : M5237ML  
IC4 : TDA7386  
IC6 : LM2575HVS-5.0  
IC7 : PST9130NR  
IC8 : TC74HC02AF  
IC13 : NJM4565M-TE2  
IC14 : TDA7479D

- Q1,27,28,31,32,75,80 : 2SC2412K  
Q2,5 : 2SB1565F(E,F)  
Q3,8,25,40,61,82 : DTA124EK  
Q4,6,7,20,41,57 : DTC144EK  
Q10 : 2SD1760

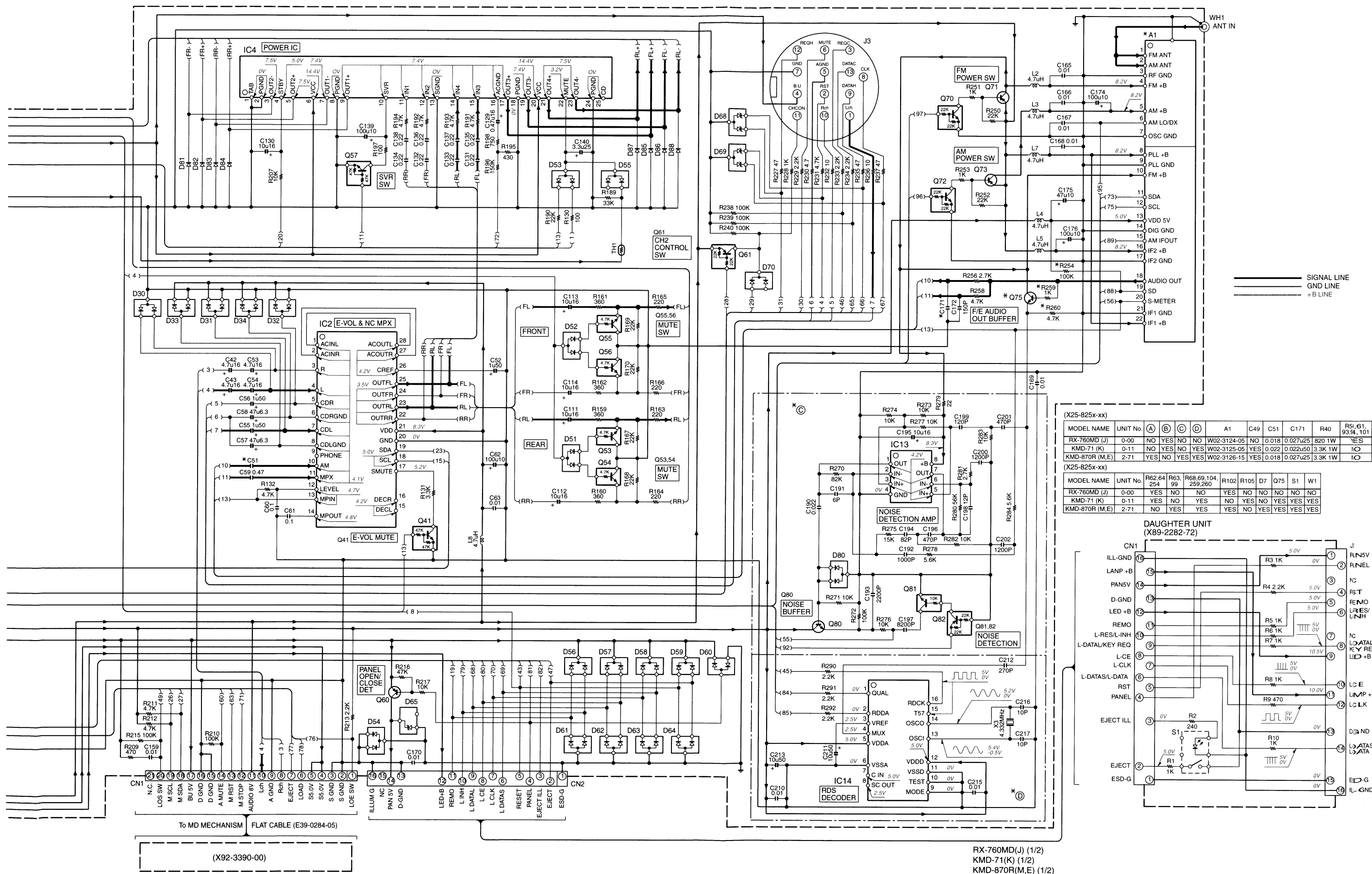
- Q19 : 2SA1036K  
Q21,23,71,73 : 2SB1277(Q,R)  
Q22,26 : DTC114YK  
Q24,60 : 2SA1037K  
Q53-56 : DTC143TK  
Q70,72 : DTC124EK  
Q81 : DTC114TK

- D1 : S2V20\*A  
D2,6,7,9,10,81-88 : AMO1Z  
D3,12,13 : MA4056(N)-M  
D4 : U1GWJ44  
D5 : MA4110-L  
D8 : MA3047-M  
D11 : 1SS133

- D21 : B30-1511-05  
D30 : RD6.8MW  
D31-34,54,60 : DA204K  
D51-53,55,61-64 : DAP202K  
D56-59,70,80 : DAN202K  
D65 : MA3062-M  
D68,69 : MA3062WA



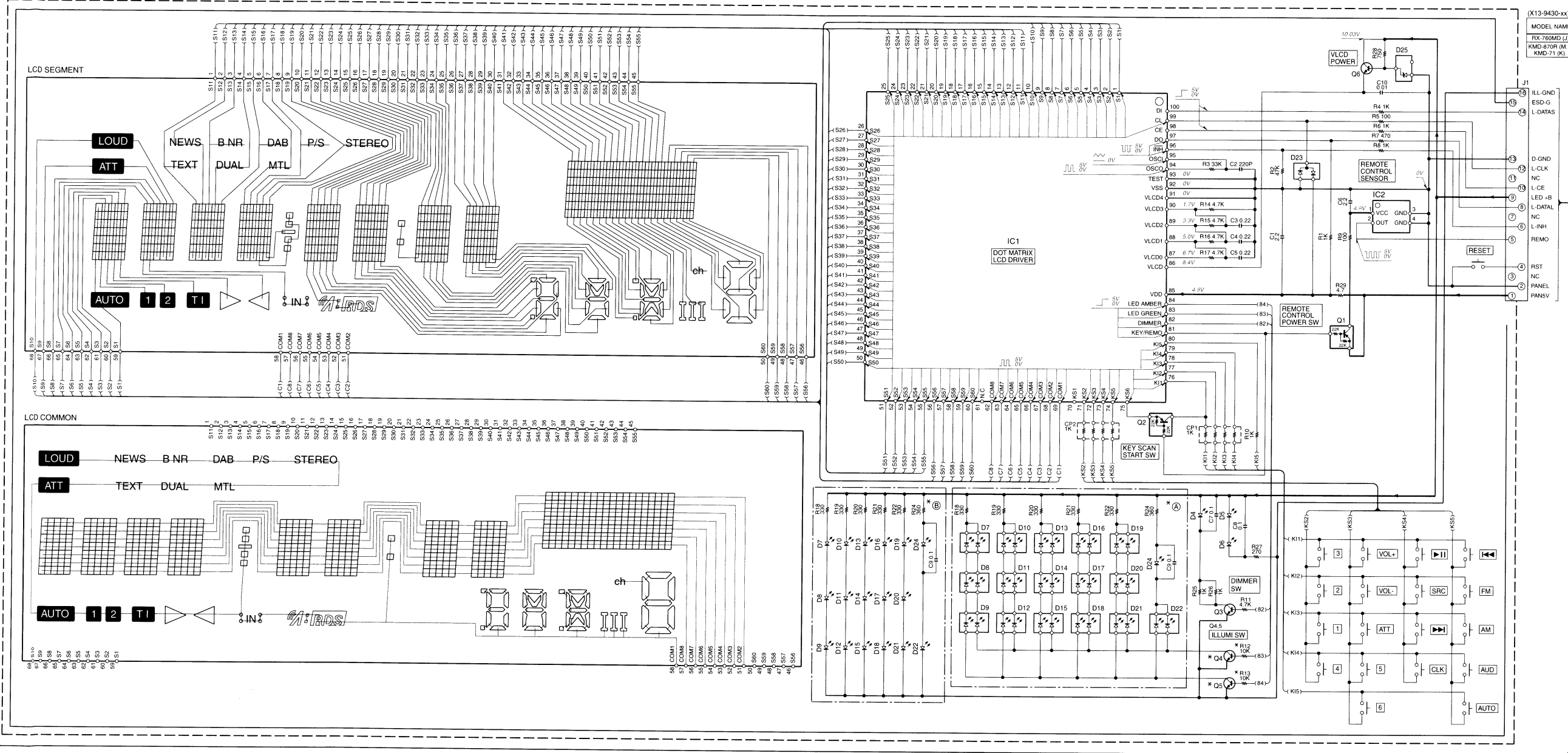




**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  
 ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.  
 • DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

**KMD-71/870R**  
**KENWOOD**

SWITCH UNIT (X13-9430-xx)



MODEL NAME	UNIT No.	A	B	O4.5	R12
RX-760MD(J)	0-00	NO	B30-2025-05	NO	NO
KMD-870R(M,E)	0-12	B30-1349-05	NO	YES	YES

IC1 : LC75817W  
IC2 : RS-171

Q1.2 : DTA124EK  
Q3.6 : 2SC2412K  
Q4.5 : 2SD2114K

D4-6 : B30-1542-05  
D7-22 : B30-1349-05 or  
B30-2025-05

D23 : DA204K  
D24 : B30-1545-05  
D25 : MA3091-M

— GND LINE  
— +B LINE

RX-760MD(J) (2/2)  
KMD-870R(M,E)/71(K) (2/2)

DTA124EK DTC144EK  
DTC114TK 2SA1036K  
DTC114YK 2SC2412K  
DTC124EK 2SD2114K  
DTC143TK

2SB1277

2SA1037K

NJM4565M-TE2

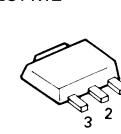
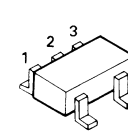
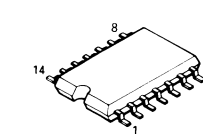
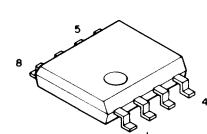
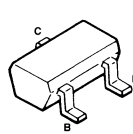
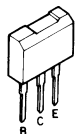
DAN202K

DA204K

TC74HC02AF

PST9130NR

M5237ML



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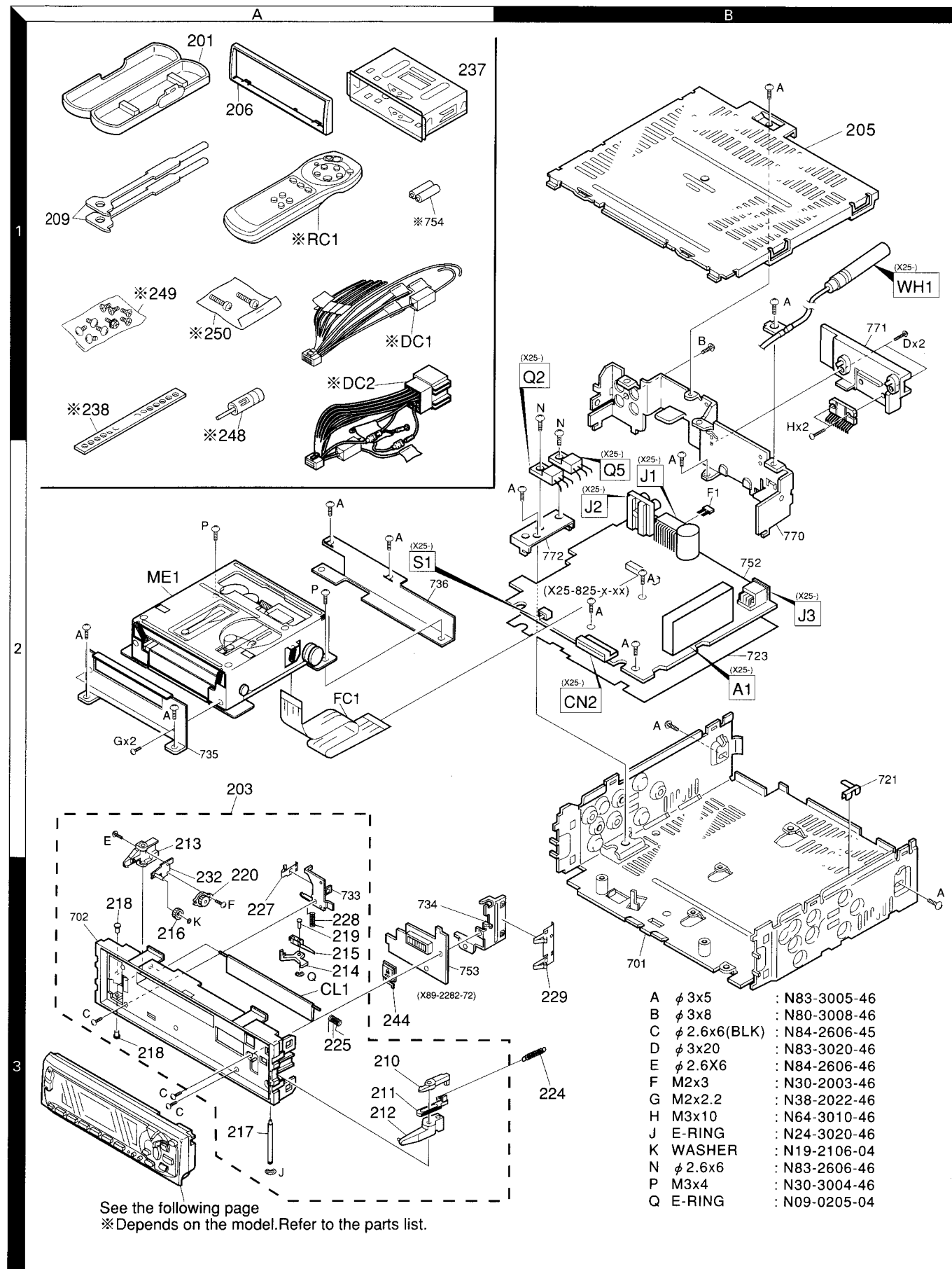
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**KMD-71/870R**  
**KENWOOD**

# KMD-71/870R

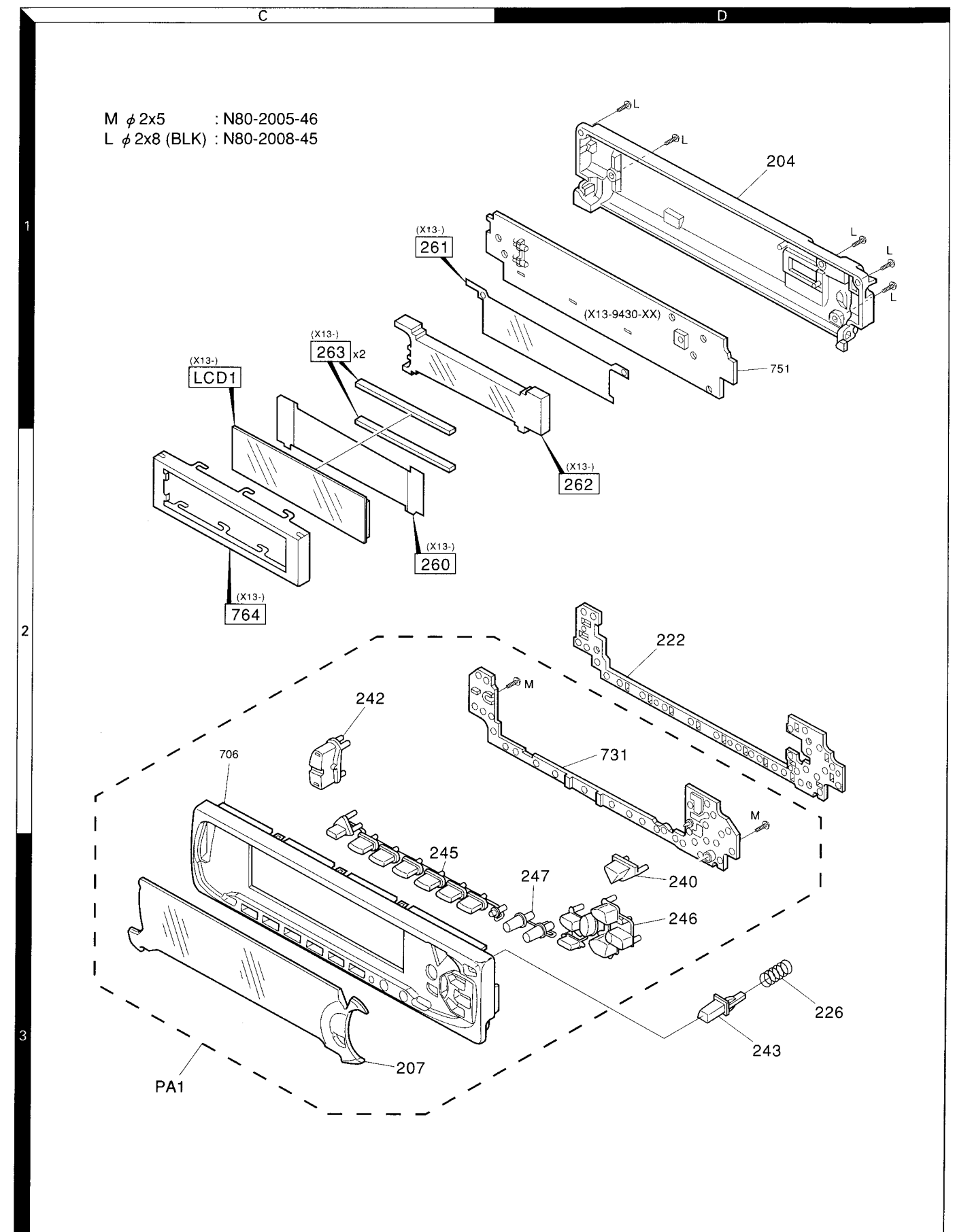
## EXPLODED VIEW (UNIT)



Parts with the exploded numbers larger than 700 are not supplied.

# KMD-71/870R

## EXPLODED VIEW (UNIT)



Parts with the exploded numbers larger than 700 are not supplied.

## KMD-71/870R

## PARTS LIST

\* New Parts

Parts without **Parts No.** are not supplied.Les articles non mentionnés dans le **Parts No.** ne sont pas fournis.Teile ohne **Parts No.** werden nicht geliefert.

## KMD-71, KMD-870R

## SWITCH UNIT (X13-9430-12)

Ref. No.	A d d	N e w	Parts No.	Description	Dest inati on
KMD-71, KMD-870R					
201	1A		A02-1486-13	PLASTIC CABINET ASSY	
203	2A	*	A22-2308-22	SUB PANEL ASSY	
204	1D		A46-1601-11	REAR COVER	
205	1B	*	A52-0724-32	TOP PLATE	
CL1	3A	*	A53-1665-03	CASSETTE LID	
PA1	3C	*	A64-1615-02	PANEL ASSY	E1M1
PA1	3C	*	A64-1616-02	PANEL ASSY	K1
RC1	1A		A70-0883-05	REMOTE CONTROLLER ASSY	M1
206	1A		B07-2163-02	ESCUTCHEON	
207	3C	*	B10-2999-01	FRONT GLASS	E1M1
207	3C	*	B10-3000-01	FRONT GLASS	K1
-			B46-0100-50	WARRANTY CARD	
-			B46-0172-13	QUESTIONNAIRE CARD	K1
-			B46-0182-14	ID CARD	E1
-			B46-0606-04	ID CARD	M1K1
-			B58-1319-04	CAUTION CARD	
-		*	B64-1305-00	INST.MANUAL(ENG,FRE)	E1
-		*	B64-1306-00	INST.MANUAL(GER,DUT)	E1
-		*	B64-1307-00	INST.MANUAL(ITA,SPA)	E1
-		*	B64-1308-00	INST.MANUAL(PORTUGUESE)	E1
-		*	B64-1309-00	INST.MANUAL(ENG,CHI)	M1
-		*	B64-1310-00	INST.MANUAL(ENG,FRE)	K1
-		*	B64-1311-00	INST.MANUAL(SPA,POR)	K1
209	1A		D10-3031-04	LEVER	
210	3A		D10-4141-04	LEVER	
211	3A		D10-4142-44	LEVER	
212	3A		D10-4143-14	LEVER	
213	2A		D10-4144-13	LEVER	
214	3A		D10-4303-03	LEVER	
215	3A		D10-4304-03	LEVER	
216	3A		D13-1352-04	GEAR	
217	3A		D21-2272-04	SHAFT	
218	3A		D21-2273-04	SHAFT	
219	3A		D21-2299-04	SHAFT	
220	3A		D39-0237-05	DAMPER	
222	2D		E29-1570-02	CONDUCTIVE RUBBER	
DC1	1A		E30-4549-05	DC CORD	K1
DC1	1A		E30-4550-05	DC CORD	M1
DC2	1A		E30-4558-05	DC CORD	E1
FC1	2A	*	E39-0284-05	FLAT CABLE	
F1	2B		F52-0006-05	FUSE(MINI BLADE TYPE)(10A)	
224	3B		G01-2856-24	EXTENSION SPRING	
225	3A	*	G01-2926-14	TORSION COIL SPRING	
226	3D		G01-2921-04	COMPRESSION SPRING	
227	3A		G02-1257-14	FLAT SPRING	
228	3A		G01-2923-04	TORSION COIL SPRING	
229	3B		G02-1259-14	FLAT SPRING	
-		*	H10-4660-02	POLYSTYRENE FOAMED FIXTURE	M1K1
-			H25-0329-04	PROTECTION BAG (280X450X0.03)	
-			H25-0337-04	PROTECTION BAG (180X300X0.03)	
-			H25-1111-04	PROTECTION BAG (280X450X0.03)	E1

K1 : KMD-71 M1 : KMD-870R E1 : KMD-870R

△ indicates safety critical components.

## KMD-71/870R

## PARTS LIST

\* New Parts

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## SWITCH UNIT (X13-9430-12)

## ELECTRIC UNIT (X25-825X-XX)

Ref. No.	A d d	N e w	Parts No.	Description	Dest inati on
R6			RK73FB2A102J	CHIP R 1.0K J 1/10W	
R7			RK73FB2A471J	CHIP R 470 J 1/10W	
R8			RK73FB2A102J	CHIP R 1.0K J 1/10W	
R9			RK73FB2A101J	CHIP R 100 J 1/10W	
R10			RK73FB2A102J	CHIP R 1.0K J 1/10W	
R11			RK73FB2A472J	CHIP R 4.7K J 1/10W	
R12 ,13			RK73FB2A103J	CHIP R 10K J 1/10W	
R14 -17			RK73FB2A472J	CHIP R 4.7K J 1/10W	
R18 -22			RK73EB2B331J	CHIP R 330 J 1/8W	
R24			RK73EB2B361J	CHIP R 360 J 1/8W	
R25 ,26			RK73EB2B102J	CHIP R 1.0K J 1/8W	
R27			RK73EB2B271J	CHIP R 270 J 1/8W	
R28			RK73FB2A751J	CHIP R 750 J 1/10W	
R29			RK73EB2B4R7J	CHIP R 4.7 J 1/8W	
D23			DA204K	DIODE	
D25			MA3091-M	ZENER DIODE	
IC1			LC75817W	MOS-IC	
IC2			RS-171	ANALOGUE IC	
Q1 ,2			DTA124EK	DIGITAL TRANSISTOR	
Q3			2SC2412K	TRANSISTOR	
Q4 ,5			2SD2114K	TRANSISTOR	
Q6			2SC2412K	TRANSISTOR	
ELECTRIC UNIT (X25-825X-XX)					
D21			B30-1511-05	LED	
C1			C90-5236-05	ELECTRO 3300UF 16WV	
C2			CK73FB1H103K	CHIP C 0.010UF K	
C3			C90-2926-05	ELECTRO 220UF 16WV	
C4			CK73FB1H103K	CHIP C 0.010UF K	
C5			C90-2597-05	ELECTRO 10UF 16WV	
C6			CE04CW0J101M	ELECTRO 100UF 6.3WV	
C7			CK73FB1H103K	CHIP C 0.010UF K	
C9			CK73EB1C105K	CHIP C 1.0UF K	
C10			CE04CW1A221M	ELECTRO 220UF 10WV	
C11			C90-2980-05	ELECTRO 220UF 16WV	
C12			CK73FB1H103K	CHIP C 0.010UF K	
C13			C90-2987-05	ELECTRO 470UF 16WV	
C20			CK73FB1H103K	CHIP C 0.010UF K	
C21			CK73FB1H223KTA	CHIP C 0.022UF K	
C22			C90-2608-05	ELECTRO 1.0UF 50WV	
C23			C90-2598-05	ELECTRO 3.3UF 25WV	
C24			CK73FB1E683KTA	CHIP C 0.068UF K	
C25			C90-2602-05	ELECTRO 0.10UF 50WV	
C26			CK73FB1H102K	CHIP C 1000PF K	
C27 ,28			CK73FB1H103K	CHIP C 0.010UF K	
C40			CE04CW0J101M	ELECTRO 100UF 6.3WV	
C41			CK73FB1H103K	CHIP C 0.010UF K	
C42 ,43			C90-2595-05	ELECTRO 4.7UF 16WV	
C44 ,45			CC73FCH1H220J	CHIP C 22PF J	
C46			C90-2608-05	ELECTRO 1.0UF 50WV	
C48			CK73FB1H102K	CHIP C 1000PF K	
C49			CK73EB1E274K	CHIP C 0.27UF K	
C50			CK73FB1H103K	CHIP C 0.010UF K	
C51			CK73FB1H183KTA	CHIP C 0.018UF K	
C51			CK73FB1H223KTA	CHIP C 0.022UF K	

K1 : KMD-71 M1 : KMD-870R E1 : KMD-870R

△ indicates safety critical components.

## PARTS LIST

\* New Parts

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## ELECTRIC UNIT (X25-825X-XX)

Ref. No.	Added	New	Parts No.	Description	Destination	Ref. No.	Added	New	Parts No.	Description	Destination
X3			L77-2002-05	RESONATOR (4.332MHZ)		R77			RK73FB2A471J	CHIP R 470 J 1/10W	
A	1B		N83-3005-46	PAN HEAD TAPTITE SCREW		R78			RK73FB2A102J	CHIP R 1.0K J 1/10W	
B	1B		N80-3008-46	PAN HEAD TAPTITE SCREW		R80			RK73FB2A223J	CHIP R 22K J 1/10W	
D	1B		N83-3020-46	PAN HEAD TAPTITE SCREW		R81			RK73FB2A102J	CHIP R 1.0K J 1/10W	
H	1B		N64-3010-46	PAN HEAD SEMS SCREW		R82			RK73FB2A223J	CHIP R 22K J 1/10W	
N	2B		N83-2606-46	PAN HEAD TAPTITE SCREW		R83			RK73FB2A102J	CHIP R 1.0K J 1/10W	
R1			RK73FB2A223J	CHIP R 22K J 1/10W		R84			RK73FB2A222J	CHIP R 2.2K J 1/10W	
R2			RK73FB2A101J	CHIP R 100 J 1/10W		R85-88			RK73FB2A102J	CHIP R 1.0K J 1/10W	
R5			RK73EB2B221J	CHIP R 220 J 1/8W		R89			RK73FB2A222J	CHIP R 2.2K J 1/10W	
R6			RK73FB2A153J	CHIP R 15K J 1/10W		R90			RK73EB2B241J	CHIP R 240 J 1/8W	
R7			R92-3032-05	CHIP R 4.3K D 1/10W		R92			RK73FB2A104J	CHIP R 100K J 1/10W	
R8			R92-3047-05	CHIP R 24K D 1/10W		R95			RK73FB2A104J	CHIP R 100K J 1/10W	
R10			RK73FB2A751J	CHIP R 750 J 1/10W		R97,98			RK73FB2A102J	CHIP R 1.0K J 1/10W	
R13			RK73FB2A473J	CHIP R 47K J 1/10W		R99			RK73FB2A222J	CHIP R 2.2K J 1/10W	E1M1
R24			RK73EB2B752J	CHIP R 7.5K J 1/8W	E1M1	R100			RK73FB2A471J	CHIP R 470 J 1/10W	
R25			RK73FB2A223J	CHIP R 22K J 1/10W	E1M1	R102			RK73FB2A473J	CHIP R 47K J 1/10W	E1M1
R26			RK73FB2A473J	CHIP R 47K J 1/10W	E1M1	R104			RK73FB2A473J	CHIP R 47K J 1/10W	E1M1
R27			RK73FB2A102J	CHIP R 1.0K J 1/10W	E1M1	R104,105			RK73FB2A473J	CHIP R 47K J 1/10W	K1
R28			RK73EB2B103J	CHIP R 10K J 1/8W		R106			RK73FB2A103J	CHIP R 10K J 1/10W	
R29			RK73FB2A472J	CHIP R 4.7K J 1/10W	K1	R107			RK73FB2A222J	CHIP R 2.2K J 1/10W	
R30			R92-0366-05	CHIP R 560 J 1W	K1	R108			RK73FB2A225J	CHIP R 2.2M J 1/10W	
R31			RK73EB2B223J	CHIP R 22K J 1/8W	K1	R109			RK73FB2A102J	CHIP R 1.0K J 1/10W	
R32			RK73FB2A472J	CHIP R 4.7K J 1/10W		R110			RK73FB2A223J	CHIP R 22K J 1/10W	
R33			R92-0365-05	CHIP R 1.0K J 1/2W		R111,112			RK73FB2A102J	CHIP R 1.0K J 1/10W	
R34			RK73FB2A223J	CHIP R 22K J 1/10W		R113			RK73FB2A222J	CHIP R 2.2K J 1/10W	
R35			R92-0365-05	CHIP R 1.0K J 1/2W		R114,115			RK73FB2A473J	CHIP R 47K J 1/10W	
R36,37			RK73FB2A123J	CHIP R 12K J 1/10W		R116,117			RK73FB2A104J	CHIP R 100K J 1/10W	
R38			RK73FB2A562J	CHIP R 5.6K J 1/10W		R119			RK73FB2A222J	CHIP R 2.2K J 1/10W	
R39			RK73FB2A223J	CHIP R 22K J 1/10W		R122,123			RK73FB2A473J	CHIP R 47K J 1/10W	
R40			RS14DB3A332J	FL-PROOF RS 3.3K J 1W		R130			RK73FB2A101J	CHIP R 100 J 1/10W	
R41			RK73EB2B473J	CHIP R 47K J 1/8W		R131			RK73FB2A332J	CHIP R 3.3K J 1/10W	
R42			RK73FB2A473J	CHIP R 47K J 1/10W		R132			RK73FB2A472J	CHIP R 4.7K J 1/10W	
R44			RK73EB2B473J	CHIP R 47K J 1/8W		R159-162			RK73FB2A361J	CHIP R 360 J 1/10W	
R45			RK73FB2A622J	CHIP R 6.2K J 1/10W		R163-166			RK73EB2B221J	CHIP R 220 J 1/8W	
R48			RK73FB2A473J	CHIP R 47K J 1/10W		R167-170			RK73FB2A223J	CHIP R 22K J 1/10W	
R49			RK73FB2A562J	CHIP R 5.6K J 1/10W		R189			RK73FB2A333J	CHIP R 33K J 1/10W	
R50			RK73FB2A470J	CHIP R 47 J 1/10W		R190			RK73FB2A223J	CHIP R 22K J 1/10W	
R52			RK73FB2A222J	CHIP R 2.2K J 1/10W		R191-194			RK73FB2A472J	CHIP R 4.7K J 1/10W	
R53			RK73FB2A473J	CHIP R 47K J 1/10W		R195			RK73FB2A431J	CHIP R 430 J 1/10W	
R55			RK73FB2A684J	CHIP R 680K J 1/10W		R196			RK73FB2A154J	CHIP R 150K J 1/10W	
R56			RK73FB2A101J	CHIP R 100 J 1/10W		R197			RK73FB2A101J	CHIP R 100 J 1/10W	
R57			RK73FB2A102J	CHIP R 1.0K J 1/10W		R198			RK73FB2A751J	CHIP R 750 J 1/10W	
R58,59			RK73FB2A101J	CHIP R 100 J 1/10W		R207			RK73FB2A103J	CHIP R 10K J 1/10W	
R60			RK73FB2A104J	CHIP R 100K J 1/10W		R209			RK73FB2A471J	CHIP R 470 J 1/10W	
R62			RK73FB2A104J	CHIP R 100K J 1/10W	K1	R210			RK73FB2A104J	CHIP R 100K J 1/10W	
R63			RK73FB2A222J	CHIP R 2.2K J 1/10W	E1M1	R211,212			RK73FB2A472J	CHIP R 4.7K J 1/10W	
R64			RK73FB2A104J	CHIP R 100K J 1/10W	K1	R213			RK73FB2A222J	CHIP R 2.2K J 1/10W	
R65			RK73FB2A222J	CHIP R 2.2K J 1/10W		R215			RK73FB2A104J	CHIP R 100K J 1/10W	
R68			RK73FB2A394J	CHIP R 390K J 1/10W		R216			RK73FB2A473J	CHIP R 47K J 1/10W	
R69			RK73FB2A102J	CHIP R 1.0K J 1/10W		R217			RK73FB2A103J	CHIP R 10K J 1/10W	
R71			RK73FB2A102J	CHIP R 1.0K J 1/10W		R227			RK73EB2B470J	CHIP R 47 J 1/8W	
R72			RK73FB2A101J	CHIP R 100 J 1/10W		R228			RK73EB2B102J	CHIP R 1.0K J 1/8W	
R73,74			RK73FB2A470J	CHIP R 47 J 1/10W		R229			RK73EB2B222J	CHIP R 2.2K J 1/8W	
R75			RK73FB2A101J	CHIP R 100 J 1/10W		R230			RK73EB2B47R7J	CHIP R 4.7 J 1/8W	
						R231			RK73EB2B472J	CHIP R 4.7K J 1/8W	

K1 : KMD-71 M1 : KMD-870R E1 : KMD-870R

△ indicates safety critical components.



KMD-71/870R

PARTS LIST

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ELECTRIC UNIT (X25-825X-XX)  
DAUGHTER UNIT (X89-2282-72)

Ref. No.	A d d	N e w	Parts No.	Description	Dest inati on
R232			RK73EB2B100J	CHIP R 10 J 1/8W	
R233,234			RK73EB2B222J	CHIP R 2.2K J 1/8W	
R235			RK73EB2B470J	CHIP R 47 J 1/8W	
R236			RK73EB2B100J	CHIP R 10 J 1/8W	
R237			RK73EB2B470J	CHIP R 47 J 1/8W	
R238-240			RK73FB2A104J	CHIP R 100K J 1/10W	
R250			RK73FB2A223J	CHIP R 22K J 1/10W	
R251			RK73EB2B102J	CHIP R 1.0K J 1/8W	
R252			RK73FB2A223J	CHIP R 22K J 1/10W	
R253			RK73EB2B102J	CHIP R 1.0K J 1/8W	
R254			RK73FB2A104J	CHIP R 100K J 1/10W	K1
R256			RK73FB2A272J	CHIP R 2.7K J 1/10W	
R258			RK73FB2A472J	CHIP R 4.7K J 1/10W	
R259			RK73FB2A102J	CHIP R 1.0K J 1/10W	
R260			RK73FB2A472J	CHIP R 4.7K J 1/10W	
R270			RK73FB2A823J	CHIP R 82K J 1/10W	E1M1
R271			RK73FB2A103J	CHIP R 10K J 1/10W	E1M1
R272			RK73FB2A104J	CHIP R 100K J 1/10W	E1M1
R273,274			RK73FB2A103J	CHIP R 10K J 1/10W	E1M1
R275			RK73FB2A153J	CHIP R 15K J 1/10W	E1M1
R276,277			RK73FB2A103J	CHIP R 10K J 1/10W	E1M1
R278			RK73FB2A562J	CHIP R 5.6K J 1/10W	E1M1
R279			RK73FB2A220J	CHIP R 22 J 1/10W	E1M1
R280			RK73FB2A563J	CHIP R 56K J 1/10W	E1M1
R281			RK73FB2A272J	CHIP R 2.7K J 1/10W	E1M1
R282,283			RK73FB2A103J	CHIP R 10K J 1/10W	E1M1
R284			RK73FB2A562J	CHIP R 5.6K J 1/10W	E1M1
R290-292			RK73FB2A222J	CHIP R 2.2K J 1/10W	
W1			R92-2052-05	CHIP R 0 J 1/10W	
S1			S74-0808-05	MICRO SWITCH	
D1			S2V20*A	DIODE	
D2			AM01Z	DIODE	
D3			MA4056(N)-M	ZENER DIODE	
D4			U1GWJ44	DIODE	
D5			MA4110-L	ZENER DIODE	
D6			AM01Z	DIODE	K1
D7			AM01Z	DIODE	E1M1
D8			MA3047-M	ZENER DIODE	E1M1
D9 ,10			AM01Z	DIODE	K1
D10			AM01Z	DIODE	E1M1
D11			1SS133	DIODE	
D12 ,13			MA4056(N)-M	ZENER DIODE	
D30			RD6.8MW	ZENER DIODE	
D31 -34			DA204K	DIODE	
D51 -53			DAP202K	DIODE	
D54			DA204K	DIODE	
D55			DAP202K	DIODE	
D56 -59			DAN202K	DIODE	
D60			DA204K	DIODE	
D61 -64			DAP202K	DIODE	
D65			MA3062-M	ZENER DIODE	
D68 ,69			MA3062WA	ZENER DIODE	
D70			DAN202K	DIODE	
D80			DAN202K	DIODE	E1M1

Ref. No.	A d d	N e w	Parts No.	Description	Dest inati on
D81 -88			AM01Z	DIODE	
IC1		*	UPD784215GF536	MI-COM IC	
IC2			TDA7461ND	ANALOGUE IC	
IC3			M5237ML	IC(VOLTAGE REGULATOR)	
IC4			TDA7386	ANALOGUE IC	
IC6			LM2575HVS-5.0	ANALOGUE IC	
IC7			PST9130NR	ANALOGUE IC	
IC8			TC74HC02AF	IC	
IC13			NJM4565M-TE2	ANALOGUE IC	E1M1
IC14			TDA7479D	ANALOGUE IC	
Q1			2SC2412K	TRANSISTOR	
Q2			2SB1565F(E,F)	TRANSISTOR	
Q3			DTA124EK	DIGITAL TRANSISTOR	
Q4			DTC144EK	DIGITAL TRANSISTOR	
Q5			2SB1565F(E,F)	TRANSISTOR	
Q6 ,7			DTC144EK	DIGITAL TRANSISTOR	
Q8			DTA124EK	DIGITAL TRANSISTOR	
Q10			2SD1760	TRANSISTOR	
Q19			2SA1036K	TRANSISTOR	
Q20			DTC144EK	DIGITAL TRANSISTOR	
Q21			2SB1277(Q,R)	TRANSISTOR	K1
Q22			DTC114YK	DIGITAL TRANSISTOR	K1
Q23			2SB1277(Q,R)	TRANSISTOR	
Q24			2SA1037K	TRANSISTOR	
Q25			DTA124EK	DIGITAL TRANSISTOR	
Q26			DTC114YK	DIGITAL TRANSISTOR	
Q27 ,28			2SC2412K	TRANSISTOR	
Q31 ,32			2SC2412K	TRANSISTOR	
Q40			DTA124EK	DIGITAL TRANSISTOR	
Q41			DTC144EK	DIGITAL TRANSISTOR	
Q53 -56			DTC143TK	DIGITAL TRANSISTOR	
Q57			DTC144EK	DIGITAL TRANSISTOR	
Q60			2SA1037K	TRANSISTOR	
Q61			DTA124EK	DIGITAL TRANSISTOR	
Q70			DTC124EK	DIGITAL TRANSISTOR	
Q71			2SB1277(Q,R)	TRANSISTOR	
Q72			DTC124EK	DIGITAL TRANSISTOR	
Q73			2SB1277(Q,R)	TRANSISTOR	
Q75			2SC2412K	TRANSISTOR	
Q80			2SC2412K	TRANSISTOR	E1M1
Q81			DTC114TK	DIGITAL TRANSISTOR	E1M1
Q82			DTA124EK	DIGITAL TRANSISTOR	E1M1
TH1			PT722A80C	POSITIVE RESISTOR	
A1			W02-3125-05	FM/AM FRONT-END	K1
A1			W02-3126-15	FM/AM FRONT-END	E1M1
DAUGHTER UNIT (X89-2282-72)					
CN1			E40-9596-05	SOCKET FOR PIN ASSY	
J1			E58-0865-05	RECTANGULAR RECEPTACLE	
R1			RK73EB2B102J	CHIP R 1.0K J 1/8W	
R2			RK73EB2B241J	CHIP R 240 J 1/8W	
R3			RK73EB2B102J	CHIP R 1.0K J 1/8W	
R4			RK73EB2B222J	CHIP R 2.2K J 1/8W	
R5 -8			RK73EB2B102J	CHIP R 1.0K J 1/8W	

K1 : KMD-71 M1 : KMD-870R E1 : KMD-870R

⚠ indicates safety critical components.

## PARTS LIST

Teile ohne **Parts No.** werden nicht geliefert.

Ref. No.	Add	New	Parts No.	Description	Destination
R9			RK73EB2B471J	CHIP R 470 J 1/8W	
R10			RK73EB2B102J	CHIP R 1.0K J 1/8W	
S1			S70-0841-05	TACT SWITCH	

Ref. No.	Add	New	Parts No.	Description	Destination

⚠ indicates safety critical components.

# KMD-71/870R

## SPECIFICATIONS

### KMD-71

#### FM tuner section

Frequency range (Frequency step)	87.9MHz~107.9MHz (200kHz)
Channel space selection	50k/200kHz
Usable sensitivity (S/N=30dB)	9.3dBf (0.8μV/75Ω)
Quieting sensitivity (S/N=50dB)	15.2dBf (1.6μV/75Ω)
Frequency response (±3.0dB)	30Hz~15kHz
S/N (MONO)	70dB
Selectivity	≥ 80dB (±400kHz)
Stereo separation (1kHz)	40dB

#### AM tuner section

Frequency range (Frequency step)	530kHz~1700kHz (10kHz)
Channel space selection	9k/10kHz
Usable sensitivity (S/N=20dB)	28dBμ (25μV)

#### MD section

Laser diode	GaAlAs ( λ =780nm)
Digital filter (D/A)	8 times over sampling
D/A converter	1 Bit
Frequency response	20Hz~20kHz (±2dB)
T.H.D.	0.01% (1kHz)
S/N (1kHz)	90dB
Dynamic range	90dB
Channel separation	85dB
Spindle speed	400rpm~900rpm (CLV)
Wow & Flutter	Below measurable limit

#### Audio section

Preout level (mV) /Load	1800mV/10kΩ
Preout impedance	≤ 600Ω
Maximum power	44Wx4
Rated power	22Wx4 (at less than 1%THD)
Tone action	
Bass	100Hz±10dB
Treble	10kHz±10dB

#### General

Operating voltage	14.4V (11V~16V allowable)
Current consumption	10A (at rated power)
Installation size (WxHxD)	182x53x160 (mm) 7-3/16x2-1/16x6-5/16 (inch)
Weight	4.0lbs (1.8kg)

### KMD-870R

#### FM tuner section

Frequency range (Frequency step)	87.5MHz~108.0MHz (50kHz)
Channel space selection	50kHz fix
Usable sensitivity (S/N=26dB)	0.7μV/75Ω
Quieting sensitivity (S/N=46dB)	1.6μV/75Ω
Frequency response (±3.0dB)	30Hz~15kHz
S/N (MONO)	65dB
Selectivity (DIN)	≥ 80dB (±400kHz)
Stereo separation (1kHz)	35dB

#### MW tuner section

Frequency range (Frequency step)	531kHz~1611kHz (9kHz)
Channel space selection	9kHz fix
Usable sensitivity (S/N=20dB)	25μV

#### LW tuner section

Frequency range	153kHz~281kHz
Usable sensitivity (S/N=20dB)	45μV

#### MD section

Laser diode	GaAlAs ( λ =780nm)
Digital filter (D/A)	8 times over sampling
D/A converter	1 Bit
Frequency response	20Hz~20kHz (±2dB)
T.H.D.	0.01% (1kHz)
S/N (1kHz)	90dB
Dynamic range	90dB
Channel separation	85dB
Spindle speed	400rpm~900rpm (CLV)
Wow & Flutter	Below measurable limit

#### Audio section

Preout level (mV) /Load	1800mV/10kΩ
Preout impedance	≤ 600Ω
Maximum power	44Wx4
Rated power	
E type	28Wx4 (DIN45324, +B=14.4V)
M type	22Wx4 (at less than 1%THD)
Tone action	
Bass	100Hz±10dB
Treble	10kHz±10dB

#### General

Operating voltage	14.4V (11V~16V allowable)
Current consumption	10A (at rated power)
Installation size (WxHxD)	182x53x160 (mm) 7-3/16x2-1/16x6-5/16 (inch)
Weight	4.0lbs (1.8kg)

**KENWOOD** follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

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